Tampa Electric Company - IGCC Project

Quarterly Report January 1 - March 31, 1996

Work Performed Under Contract No.: DE-FC21-91MC27363

For

U.S. Department of Energy Office of Fossil Energy Federal Energy Technology Center Morgantown Site Morgantown, West Virginia

By

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TECO Power Services Corporation Tampa, Florida

MASTER

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February 22, 1996

Mr. Nelson F. Rekos, Jr.
Project Manager
Clean Coal Branch
U.S. Department of Energy
Morgantown Energy Technology Center
3610 Collins Ferry Road.
Morgantown, WV 26505

Re: Tampa Electric Company IGCC Project Quarterly Report - First Quarter 1996

Dear Nelson:

On February 7, 1996, representatives of Tampa Electric met with DOE personnel at METC to review the subject project status. The notes of this meeting will serve to meet the requirements of the First Quarter 1996 Technical Quarterly Report. For your review and use, attached is a complete set of all materials used by the Tampa Electric Team during this presentation.

In the way of a general summary of the meeting results, below is an overview of the current project status.

Mr. Black reported that the project is generally meeting its intended objectives. Polk is currently on schedule for completion about September 15, 1996. This would initiate the Demonstration Testing Period.

With the finalization of the recent overrun request via Amendment A-007, the project is generally on budget, with the major unknown piece being the costs for reclamation of the area west of SR 37. If TEC is successful in mitigating these reclamation requirements, the overall project cost should be at or below current estimates.

From a personnel standpoint, Deputy Project Managers Steve Jenkins and Dan Giel have been transferred to other areas in TECO Energy. Also, in addition to his current assignment as Project Construction Manager, Mike Rivers has been assigned the responsibilities of Deputy Project Manager following construction, start-up, spare parts, environmental and parts of the DOE activities.

Probably the most difficult of all project challenges is the hot gas clean-up system (HGCU). Physical construction of the HGCU system is progressing well. However, development of the required sorbent causes TEC great concern on all fronts; technically, schedule wise, cost wise, and

Mr. Nelson Rekos February 22, 1996 Page 2

politically. There is a real possibility that after checkout of the HGCU system, operation may have to be delayed pending the development of a functionally and financially acceptable sorbent for actual plant operation.

As we begin to approach completion of the project's construction, TEC is initiating efforts related to the continuation application to proceed from Budget Period II to Budget Period III. We expect to submit that application in the spring of this year.

Bechtel has completed 99%+ of the detailed engineering and has completely shut down the engineering effort in their Houston office except for any specific requests or speciality support. The Bechtel overall quality of engineering remains good. Bechtel does have a resident engineering staff (Houston based engineers assigned to the site) comprised of generally one (1) engineer from each discipline, to rapidly resolve any problems or questions that arise in the field.

We have finally resolved almost all of the engineering problems related to the design of the Radiant Syngas Cooler (RSC) supplied by Man-GHH. There are still some outstanding commercial issues which should be resolved shortly.

General Electric has experienced several problems related to the 7F Combustion Turbine (CT). Throughout its worldwide fleet, the 7F CT has experienced a set of incidents, which are either isolated cases, affect only limited units, or affect all units. For our unit, several of the problems either don't exist or have already been corrected. The one most significant item for the Polk Unit is the cracking in the 3rd stage turbine wheel. To prevent this cracking, GE has developed a program to cut off a portion of the 2/3 spacer. GE is implementing this fix worldwide and should complete the Polk work by February 15, 1996.

The other modification currently being implemented by GE is the alteration of the Combustion Liners based on a testing program at Schenectady to optimize the firing characteristics of the 7F while burning syngas.

During our review meeting at METC, TEC asked for help from DOE to insure that operating issues which developed at the DOE Wabash River Project, would be passed on to Polk Project personnel to preclude our unit from being subjected to similar cost and schedule problems.

Essentially all equipment and material has been delivered to the site. There are a few minor valves and miscellaneous cable yet to be delivered, but none of them will have any significant negative impact on the project schedule.

Ordering of spare parts is a major effort. We have almost finished the effort required to support the plant start-up and are now concentrating on procurement of plant operating spares.

Another area requiring significant attention is the Process Safety Management (PSM) assessment which is currently underway. TEC is reviewing the OSHA requirements to confirm the specific efforts required for this area.

Mr. Nelson Rekos February 22, 1996 Page 3

GEESI has essentially completed all their conceptual and detailed engineering. Remaining work is centered around finalizing drawings and instruction manuals. We are assessing the requirements for GEESI support for training and start-up of the HGCU system. GEESI is also heavily involved with the sorbent development and testing.

As mentioned above, sorbent development remains a critical path item for the HGCU system. Completion of the pilot plant testing at Schenectady was delayed last fall and TEC has serious concerns about all of the potential sorbents being ready to start the spring tests. Manufacture of the Z-Sorb 3M for the shakedown testing at the project site appears to be on schedule for a May 1, 1996 delivery. In order to support the supply of the operating sorbent, an order for a technically and financially acceptable operating sorbent also must be placed by May 1, 1996. If this date is missed, initial operation of the HGCU system will probably have to be delayed. The attached schedule details the project's requirements. In a recent meeting at METC, two (2) other promising sorbents under development were discussed. It is unlikely that either of these new sorbents would be available for the Polk start-up.

TEC still is concerned about the coverages of Phillip's patents related to sorbents for our HGCU. We still need to resolve the long term ownership interests of all the various parties involved with Polk sorbent supply, including Phillips, DOE, and GEESI. We are currently working with DOE METC to resolve the DOE patent position.

Tampa Electric has prepared a short video which covers the history of the project, discusses some of the key elements of the project, and provides an update of the project status. A copy of this video was left with project personnel at METC for their use.

Construction percentage complete continues to increase. We are currently about 2/3 complete with the overall site activities. During this quarter, we expect to mechanically complete the air separation unit, the sulfuric acid plant, and complete the combustion turbine lube oil flush. The project has consumed about 2,800,000 man-hours to date. Construction has completed about 1/3 of the system turnover packages. Start-up has turned over about 10% of the systems to the plant for operation. To date, this is slightly behind schedule but several packages/systems will be completed in the next few weeks.

The current project critical path is through the installation of piping in the gasification area. This item is currently showing slightly behind schedule but efforts are underway to restore the project schedule.

Environmental compliance continues. TEC notified the Florida Department of Environment Protection (FDEP) that the first firing of the auxiliary boiler occurred January 3, 1996. Reclamation of the main plant areas has been completed. The contractor is now planting the required trees, shrubs and other plants.

Mr. Nelson Rekos February 22, 1996 Page 4

In the area west of SR 37, documents are being prepared for submittal to the agencies which would be asked for approval to revise the reclamation requirements for that area to a plan that is significantly more cost effective. We expect the Governor to act on this request late summer of 1996.

As of February 8, 1996, all plant operating personnel have been hired and training was well underway. Tampa Electric has undergone an extensive selection process to ensure the most qualified personnel available will be considered for selection. The operator associated training schedule is exhaustive and requires about 6 months for each individual. The permanent plant staff will consist of 72 people operating in a self-directed environment. All of the IGCC process teams will be multi-disciplined with each individual trained in two (2) different technical areas.

Tampa Electric is currently undergoing a review of the Polk unit by the Florida Public Service Commission to consider a mechanism which will allow inclusion of the Polk Unit in rate base without undue stress on the customers rates. This review is expected to continue for the next few months.

Attached is a copy of the revised project cash flow which reflects the recently approved cost growth request A-007. Also included are comparison cash flows for the most recent project cost updates.

From an overall aspect the project continues on schedule for a first gasifier fire in mid-July 1996. We currently have the start-up/light-off fuel oil on site, and expect to receive the first coal on site mid-March 1996. The cooling pond is complete and almost at operating level. The project simulator is being used for the first parts of the plant to be started-up: the ASU and the Auxiliary Boiler.

TEC has recently taken bids for the start-up coal supply, and are preparing a contract for submittal to DOE for its approval as a surveillance contract.

The project is currently developing a detailed plan for the period of time from first gasifier fire to full load operation/performance testing.

Very truly yours,

D. E. Pless

D.E. Pless

Project Manager

DEP:jm:AMSTQTRRPLTR

cc:

C.R. Black R.N. Howell

Trimco

Tampa Electric Company - Project Review Meeting First Quarter Review, February 7, 1996 Morgantown Energy Technology Center, Conf. Room G4a/b

8:00	Introductions & Welcome	Nelson Rekos, DOE
- 8:10	Overall Project Status	Chuck Black, Tampa Electric Co.
8:20	Project Management/Engineering	Don Pless
8:40	Construction	Mike Rivers
9:00	Environmental	19 19
9:20	Start-Up	н н
9:40	Break	
10:00	Operations	Charles Shellnut
10:20	Regulatory	Bob Howell
10:30	Budget & Costs	Mike Hegarty
10:50	Schedule	Don Pless
11:00	Questions & Discussions	

Notes

(J)

TAMPA ELECTRIC COMPANY - DOE IGCC PROJECT FIRST QUARTER 1996 - STATUS REVIEW METC - FEBRUARY 7, 1996

OVERALL PROJECT STATUS

C.R. BLACK

PROJECT MANAGEMENT/ENGINEERING

D.E. PLESS

CONSTRUCTION/SAFETY

M.R. RIVERS

ENVIRONMENTAL

M.R. RIVERS

START-UP

M.R. RIVERS

BREAK

OPERATIONS

C.A. SHELNUT

BUDGET/COSTS

M.E. HEGARTY

REGULATORY

R.N. HOWELL

SCHEDULE

D.E. PLESS

QUESTIONS AND DISCUSSIONS

ALL

TAMPA ELECTRIC COMPANY - DOE IGCC PROJECT FIRST QUARTER 1996 - STATUS REVIEW METC - FEBRUARY 7, 1996

Length	<u>Time</u>	Subject	
10 Minutes	8:00 am	Overall Project Status	C.R. Black
20 Mintues	8:10 am	Project Management/Engineering	D.E. Pless
20 Minutes	8:30 am	Construction/Safety	M.R. Rivers
10 Minutes	8:50 am	Environmental	M.R. Rivers
20 Minutes	9:00 am	Start-Up	M.R. Rivers
10 Mintues	9:20 am	BREAK	
20 Minutes	9:30 am	Operations	C.A. Shelnut
20 Minutes	9:50 am	Budget/Costs	M.E. Hegarty
10 Minutes	10:10 am	Regulartory	R.N. Howell
10 Minutes	10:20 am	Schedule	D.E. Pless
	10:30 am	Questions and Discussions	All

OVERALL PROJECT STATUS

- ♦ Approval of M-007
 - ► Cost/Envelope Growth of \$12,600,000
 - METC's Effort
 - ► Importance to TEC
- ♦ General Project Status
 - Project Objectives
 - C.O. Date
 - Cost
 - HGCU
- ♦ Continuation Application
 - Starting The Process
 - Review Requirements
 - Submittal late this Spring

- ♦ Personnel Changes
 - Deputy Project Managers
 - -- Steve Jenkins
 - -- Dan Giel
 - -- Mike Rivers

- ♦ Other Project Representatives
 - Charles Shelnut
 - ▶ Bob Howell
 - Mike Hegarty

- ♦ Bechtel
- ♦ 99%+ Complete
- ♦ Houston Shutdown
- ♦ Resident Engineering Staff
- ♦ Man GHH

- ♦ General Electric
 - ► 2/3 Spacer Modification
 - Combustion Liner Modifications
 - ► Other 7-F Fleet Problems
 - Hartford Insurance
 - Warranty Considerations
 - Comparison to Wabash River

- ♦ Material Delivery Status
- ♦ Process Safety Management (PSM)
- ♦ HGCU
 - GEESI Engineering
 - Sorbent
 - Phillips
 - Patent Positions
- ♦ Project Video

SIU and HU Schedules

Desulfurization Sorbents for TECo D. Cicero 4:17 PM 1/30/96

			Ath Ousedar	1ct Onarter	2nd Quarter	3rd Quarter	4th Quarter	1st Quarter	2n	
Task Name	Start	Finish	8	Jan Feb Mar	Apr May Jun Jul	ll Aug Sep	Ž	Jan	Apr	i i
1st Fill Delivery to TECo	5/1/96	5/1/96	7	ļ	♦ 611 • C.	CHAVEON W	RESTART	HOCU OPERATIONAL	/avac	I ESTING
Z-Sorb 3M Production	11/16/95	5/1/96			PLACE SO	REENT ORDER	PLACE SORBENT ORDER FOR POLK 2 NO	JO FILL		
				***********			****			
METC 50-Cycle Test	10/10/95	11/3/95				•••••••				
METC-10 Pilot Productio	11/6/95	12/6/95	,	**********						
				••••••		•••••				
PPCo 50-Cycle Test	10/2/95	2/12/96				£.				
Z-Sorb4 Pilot Production	2/26/96	3/29/96					**			
			••••							
SIU 50-Cycle Test	1/29/96	2/29/96	•••••		COULD BE DO	COULD BE DONE AS SOON AS				
SIU Pilot Production	3/15/96	4/18/96	••••			_	······································	••••		
			•••••	*********				••••		
Hampton 50-Cycle Test	6/5/96	7/8/96		••••••		A				
Hampton Pilot Producti	7/22/96	8/23/96		********				••••		
•			•••••	•••••••						
200 Hr GE Pilot Test	12/11/95	12/22/95			THE THE PERT	TEGT	Mills			
400 Hr GE Pilot Tests	3/15/96	4/25/96	Dec 95 Test		■ BACK-TO-BACK	-BACK			,	
1997 GE Pilot Tests	3/17/97	4/25/97	DID NOT HAPPEN							
7 - 104 A 1V 50 CY	50 CYCLIE TIEST				,			•		

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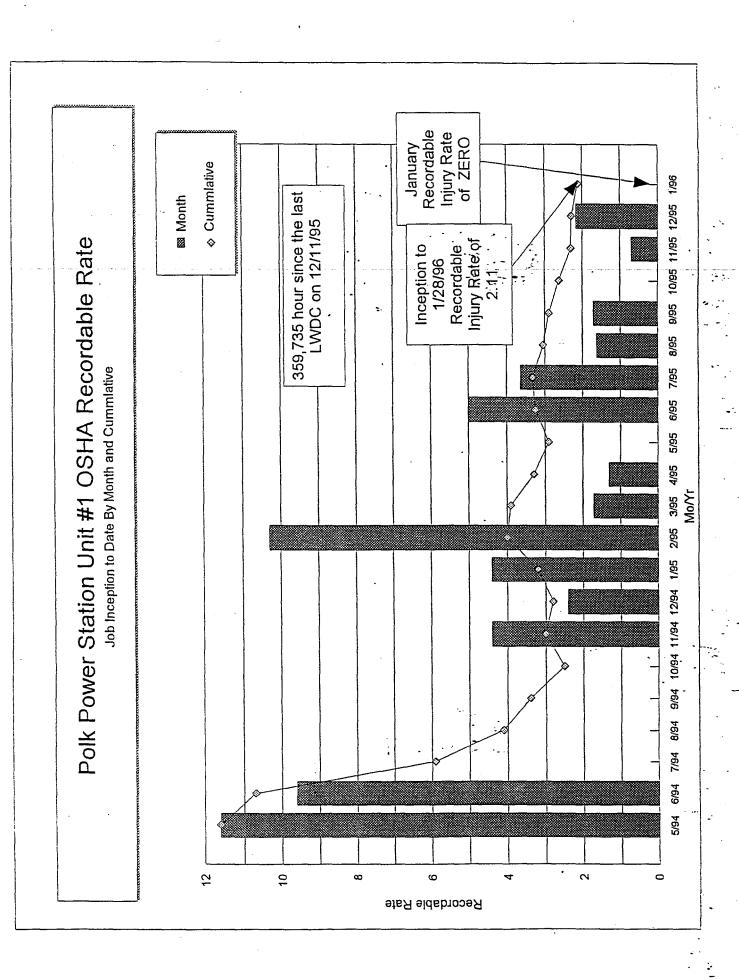


POLK POWER PROJECT CONSTRUCTION

PROJECT MILESTONES

•	SET RADIANT SYN GAS COOLER	PLANNED 01-JUL-95	
• .	ENERGIZE PLANT SUBSTATION	01-AUG-95	27-JUL-95
•	COOLING RESERVOIR COMPLETE - COMPLETE WATER TRANSFER		
•	UTILITIES TO AIR SEPARATION UNIT	13-NOV-95	13-NOV-95
•	STEAM TO AIR SEPARATION UNIT	10-JAN-96	15-JAN-96
•	ACID PLANT COMPLETE	15-FEB-96	17-JAN-96
•	FIRST COAL IN SILO	13-MAR-96	,
•	FIRST FIRE CTG (ON OIL)	19-APR-96	
•	STEAM BLOWS COMPLETE	30-APR-96	
•	ROLL STEAM TURBINE	01-JUN-96	
•	MAKE FIRST SYNGAS	18-JUL-96	
•	TURNOVER FOR OPERATION	15-SEP-96	

COMPLETE WETLAND RESTORATION MAY-97



HISTOGRAM OF SCHEDULED SYSTEM TURNOVERS

STATUS AS OF JANUARY 24

STARTUP SYSTEM DESIGNATORS (PARTIAL LISTING)
AGA AND DADAMANIA
AGA AND DADAMANIA
AGA AND SAGAMANIA
AGA AND SAGAMANIA
AGA SAGAMANIA
AGA SAGAMANIA
AGA SAGAMANIA
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AGA COMBINATOR SALIN
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AGA COMBINATOR
AGA SAGAMANIA
AGA SAGAMANI

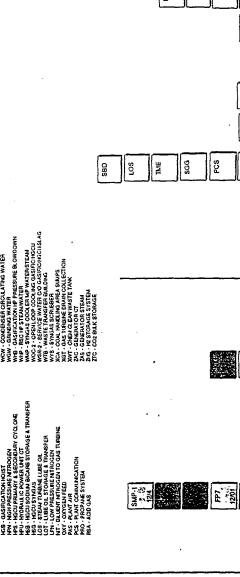
TURNOVER TO STARTUP BEHIND SCHEDULE

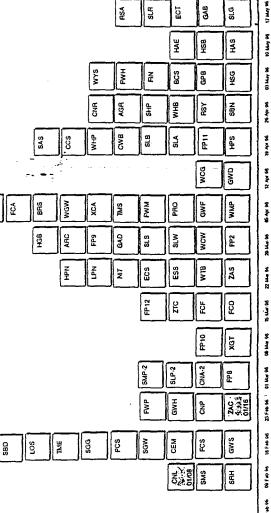
TURNOVER TO STARTUP EARLY

TURNOVER TO STARTUP ON SCHEDULE

NURNOVER TO STARTUP LATE

FIELT BLAKER 8 TURBUE COLM ALCH DRUM & PUMP SYSTEM EV WATER PANIES FIFCATION & EVATOR





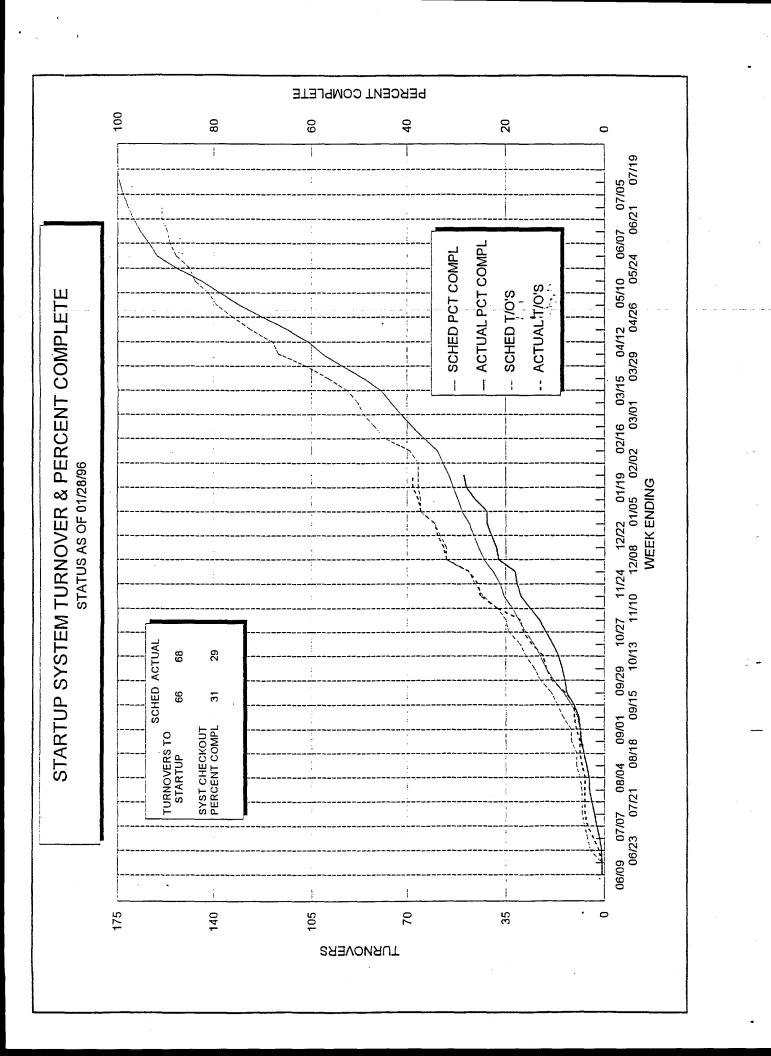
SLR

RSA

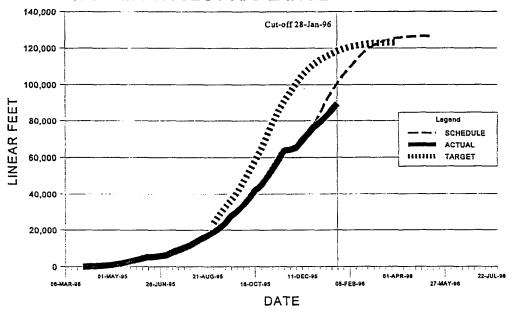
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EC1

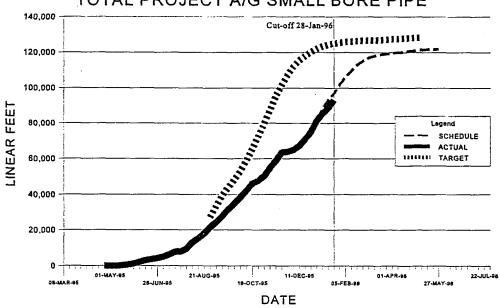
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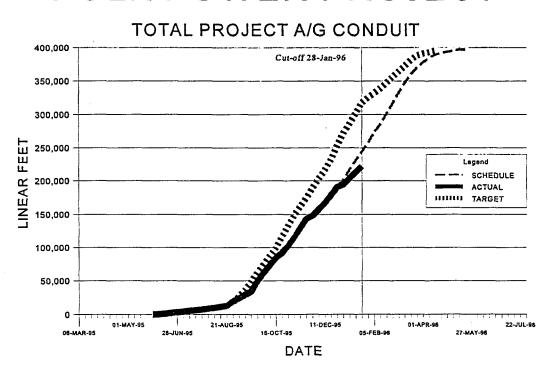
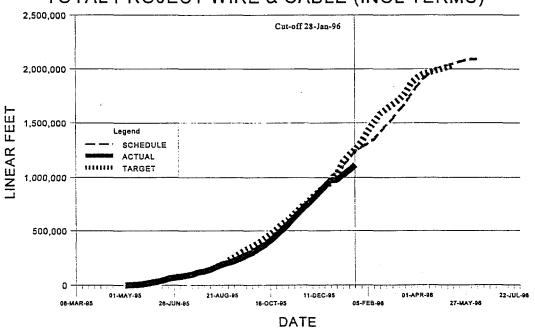


Figure 1

TOTAL PROJECT WIRE & CABLE (INCL TERMS)



Polk Power Station Environmental Status

Notifications

- The Florida Department of Environmental Protection (FDEP) was notified of the first fire of
 the Auxiliary boiler which occurred on January 3, 1996. The Auxiliary Boiler Environmental
 Performance test protocol was submitted as required by the Conditions of Certification and
 PSD permit.
- Notification to place the domestic waste treatment system in service was submitted and approved and the system placed into service.
- FDEP was notified and gave approval to transfer up to 8,000 Acre-st of accumulated storm water for the Polk Power Station site to a neighboring phosphate mine. This was required to dewater the reclamation area west of SR 37.

Reclamation Work

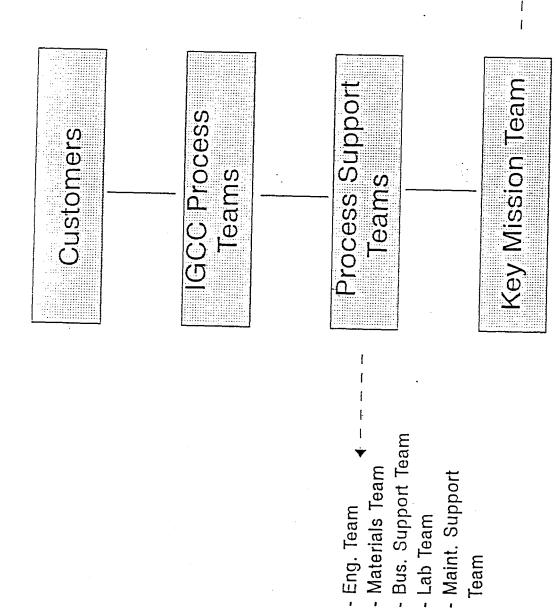
- Reclamation areas east SR 37 are on schedule as outlined in the Conditions of Certification. Some plants may have to be replanted due to recent frosts which have occurred on site. Final as-builts have been completed and are in the process of being prepared for submittal to FDEP as required in the Conditions of Certification.
- Revisions to the site reclamation plan are currently being developed for approval by FDEP and are expected to be submitted by the end of February. Negotiations with FDEP have been proceeding favorably for these reclamation changes. Approval of the modified plan is expected sometime after June 1996 (with a submittal by the end of February). Earth moving work for the modified plan is proceeding with a qualified approval (at owner's financial risk) by FDEP.

NPDES Discharge Points

- Outfall 002 was opened in the later part of December to support reclamation work on site.
 Automated sampling systems have been installed to support sampling and reporting requirements.
- Outfall 001 has not been opened for discharge. However, discharge is expected to begin within the first quarter of 1996.

Submittal Requirements

 With the exception of consumptive use reports required by South West Florida Water Management District (SWFWMD), all submittals required by the Conditions of Certification are on time. SWFWMD reporting will be brought current with the reports to be submitted by February 10, 1996:



- Eng. Team

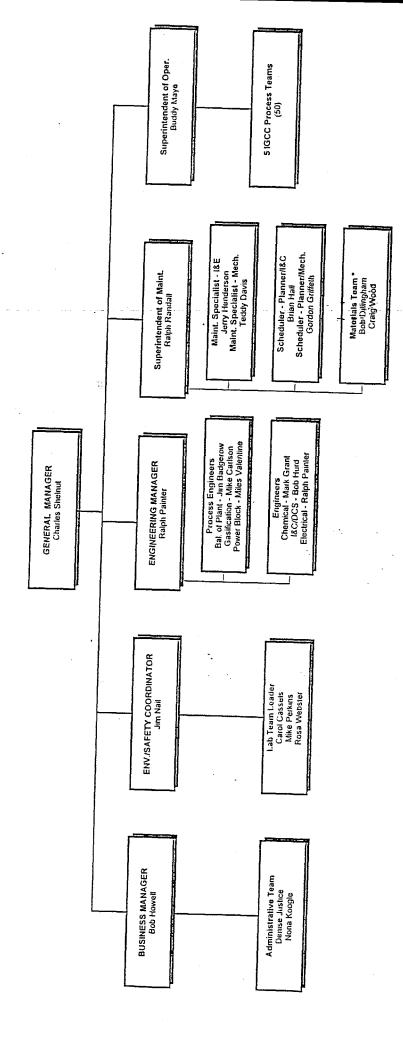
- Lab Team

Wir- Eng. Mgr.

- SPO - SPM

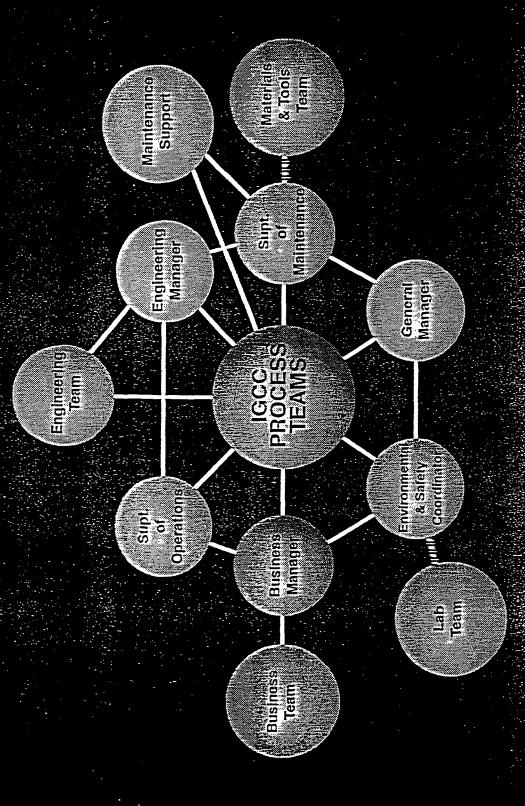
- Bus. Mgr. - Env./Safety Coord.

- Gen. Mgr.



Pictorian GIC Pictorian I

January 25, 1996



POLK POWER STATION PERSONNEL REQUIREMENTS

KEY MISSION TEAM	
GENERAL MANAGER ENGINEERING MANAGER/ELECTRICAL ENG. BUSINESS MANAGER SUPERINTENDENT OF OPERATIONS SUPERINTENDENT OF MAINTENANCE ENVIRONMENTAL/SAFETY COORDINATOR SUBTOTAL MANAGEMENT	1 1 1 1 1 1
ENGINEERING TEAM	
GASIFICATION PROCESS ENGINEER POWER BLOCK PROCESS ENGINEER ASU, H₂SO₄, AUX. SYS. PROCESS ENGINEER CHEMICAL ENGINEER I&C/DCS ENGINEER SUBTOTAL ENGINEERING	1 1 1 1 5
IGCC PROCESS TEAMS	
IGCC PROCESS SPECIALIST	50
PROCESS SUPPORT	
I&C/DCS/ELECTRICAL SPECIALIST MECHANICAL MAINTENANCE SPECIALIST I&C/ELECTRICAL SCHEDULER/PLANNER MECHANICAL SCHEDULER/PLANNER LAB SPECIALIST MATERIALS/TOOLS SPECIALIST SUBTOTAL SUPPORT	1 1 1 3 2 10
BUSINESS SUPPORT	
ADMINISTRATIVE SPECIALIST	2
TOTAL STATION REQUIREMENTS	72

OPERATORS/SHIFT

10/TEAM

1/24/96

- 1 TEAM LEADER
- 2 CONTROL ROOM
- 2 GASIFICATION
- 1 POWER BLOCK OPERATOR
- 1 ASU/DEMIN. WATER TREATMENT
- 1 SLURRY PREP/BRINE CONCENTRATOR
- 1 SULFURIC ACID PLANT/AMINE SYSTEM
- 1 COAL AND SLAG HANDLING

SKILLS/PER SHIF	Τ	TOTAL FOR 5 TEAMS
I&C	3	15
ELEC.	2	10
MECH./WELD.	1	5
M/MILLWRIGHT	3	15
OTHER SKILLS	1	5

TOTALS BY SKILLS

- 3 GENERAL MANAGER/MANAGERS
- 2 SPO/SPM
- 5 ENGINEERS
- 1 ENVIR./SAFETY
- 2 MAINTENANCE SPECIALIST
- 2 SCHEDULER/PLANNER
- 15 I&C
- 10 ELECTRICAL
- 3 LAB
- 5 MECH./WELDER
- 15 MECH./MILLWRIGHT/MACHINIST
- 2 ADMINISTRATIVE
- 2 WAREHOUSE
- 5 REMAINING COMPLIMENT VARIED SKILLS SUCH AS OPERATIONS
- 72 TOTAL

POLK POWER STATION IGCC PROCESS SPECIALIST

Employees were selected who had high *Technical Skills* in one or more of the following areas:

Mechanical Maintenance
Electrical Maintenance
Instrumentation & Controls

Plant Operations

They will be required to complete a comprehensive training program in *Operations* and *Safety* and gain a base level of skill in a *Second Technical Area* of either:

Mechanical Maintenance
Electrical Maintenance
Instrumentation & Controls

The station was staffed using a *Self Directed Work Team* philosophy which required people have strengths in the following dimensions:

Teamwork

Ability to Learn

Judgement

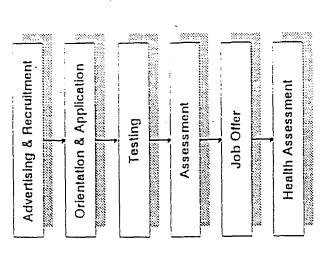
Initiative

Work Standards

Adaptability

Problem Analysis

Major Steps in Selection System



- Expected selection ratio is low (many applicants per position)
- Designed as a funnel; expense and effort concentrated at later stages
- Decision rules and points clearly defined
- All applicants treated consistently

POLK POWER OPERATOR TRAINING

	OF LICATOR TRAINING
7 wks.	 Initial Training Basic Power Plant Plant Auxiliary Basic Chemical Fundamentals, Water Treatment Safety Training - First Aid, Safety Regs., Hazwoper, Process Safety Systems Training
1 wk.	Bailey DCS
1 wk.	Air Separation Unit
1 wk.	Sulfuric Acid Plant
3 wks.	 GE Power Block Training Combustion Turbine Familiarization and Routine Maintenance Heat Recovery Steam Generator Steam Turbine Operations and Maintenance Mark V Controls Generator Controls and Excitation
2 wks.	Texaco Gasification
1 wk.	Brine Concentrator
1 wk.	Hot Gas Cleanup
1 wk.	PC TrainingWork Order ManagementTEC System
2 wks.	 Tech. Level Specialized Training CEM's GE - Mark V, Exciter Analyzer's Bailey Reliance - GEHO

10 wks. Simulator

All areas of plant, followed by integrated plant control

Juda 1971 meters 1

POLK POWER STATION TRAINING OVERVIEW

DATES

INSTRUCTOR

7 WEEKS

JULY 17, 1995

TECO

JANUARY 8, 1996 - alterding 11925 **OCTOBER 6, 1995**

1 WEEK

BAILEY (DCS)

AUGUST 28, 1995 - Kil grown 1004 grown Sinner

1 WEEK

AIR PRODUCTS (ASU)

NOVEMBER 27, 1995 OCTOBER 9, 1995

AIR PRODUCTS

2 WEEKS

TEXACO (GASIFICATION)

MARCH 4, 1996 **APRIL 1, 1996**

TEXACO

MONSANTO (SULFURIC ACID PLANT)

DECEMBER 11, 1995 FEBRUARY 12, 1996 AUGUST 19, 1996

MONSANTO

3 WEEKS

GE (POWER BLOCK)

JANUARY 8, 1996 MARCH 18, 1996

VOGT

10 WEEKS

SIMULATOR

NOVEMBER 6, 1995 THROUGH **SEPTEMBER 15, 1996**

OUTSIDE TECO

PPTHINDMOUNTERING (200 307 HOGIL, OFFINE COVE, SPICED BUYS 149

DOE PPS STATUS REVIEW FEBRUARY 7, 1996

Operations

A. Staffing

- 1. Organization charts (3)
- 2. Total staffing (2)
- 3. Requirements for job applicants
- 4. Selection plan
- 5. Skills required/team and totals selected

B. Training

- 1. 27 weeks of classroom training
 - operator and safety
- 2. 10 weeks simulator training for some
- 3. 3 groups last group January 8th
- 4. 18 people in group 3
 - 14 people working operating shifts
 - 20 people in vendor training, instructors, spare parts, procedures, startup support, etc.

TAMPA ELECTRIC COMPANY

REGULATORY UPDATE

\$100M REVENUE REQUIREMENT FOR POLK POWER STATION

NO IMPACT TO CUSTOMER - NO PRICE CHANGE

Restructing Efforts
Reductions in O&M & Construction Costs
O&M Held Flat

DEFERRED REVENUE PLAN - APPROVED BY FPSC

1995 1996

\$50M \$10-12M

ALLOCATE DEFERRED REVENUES FROM 1995/1996

To offset 1997/1998 Possibly 1999 Revenue Requirements associated with Polk Power Station

Other continuing cost control efforts

CURRENT REGULATORY ISSUES

Cost of Polk Power Station - Prudency

Interrogatories due to PSC 02/25/96

Fuel Pricing Issues Lower Gas Prices vs IGCC

SCHEDULE

- ♦ Turnover for Operation Date
 - Current Projection
 - Critical Path
 - ► Fuel Oil On-Site
 - ASU and Sulfuric Acid Plant Construction
 - Cooling Pond Complete
 - Beginning Coal Procurement
 - ► Big Bend Coal Yard Changes
 - Start-Up
 - Shakedown and Performance Test Plan
 - Simulator
 - Continuation Application

POLK POWER PROJECT

PROJECT MILESTONES

•	SET RSC	PLANNED ACTUAL 01-JUL-95 26-JUN-95
•	ENERGIZE BUS SUB 0	01-AUG-95 27-JUL-95
•	COOLING RESERVOIR COMPLETE	15-OCT-95 15-OCT-95
•	UTILITIES TO ASU	13-NOV-95 13-NOV-95
•	STEAM TO ASU	10-JAN-96 15-JAN-96
•	ACID PLANT COMPLETE	15-FEB-96
•	FIRST COAL IN SILO	13-MAR-96
•	FIRST FIRE CTG (ON OIL)	19-APR-96
•	STEAM BLOWS COMPLETE	30-APR-96
•	ROLL STEAM TURBINE	01-JUN-96
•	MAKE FIRST SYNGAS	18-JUL-96
•	TURNOVER FOR OPERATION	15-SEP-96

SUMMARY SCHEDULE statused thru 31-Jan-96 POLK POWER PROJECT

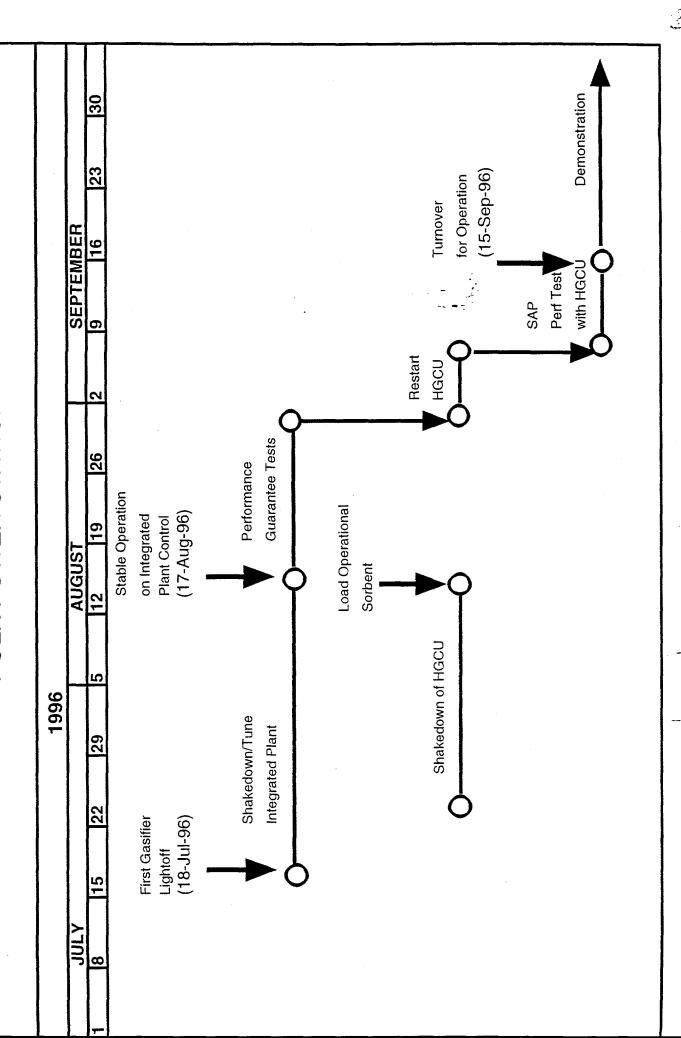
A S O N D J F M A M J J A S O N | J | A | S | O | N | Make 1st Turnover for To compl May '97 Shake Perf down Test Syngas 1996

F | M | A | M | J |

First Fire Roll Stm Mai Turbine Syngas Startup HGCU Startup Wetlands Reclamation CT on Oi Startup HRSG Startup ST Startup CT GE Mods Status to ASU A S O N D Erect Hot Gas Cleanup Complete to ASU Erect Gasification Unit Energiz Erect HRSG Erect CT Erect S1 Johnson Bros. CP-001/022 MAJOR MILESTONES Combustion Turbine Wetlands Reclaim. **ZACHRY CP-12** Steam Turbine Gasification TIC CP-11A TIC CP-11 HGCU HRSG



SHAKEDOWN & PERFORMANCE GUARANTEE TEST PLAN POLK POWER STATION



Polk Power Station Fall 1995 Reforecast

											-			
206,348												184,330	Yearly	
390,676	371,755	358,934	344,282	332,641	309,508	300,604	264,267	249,116	231,226	202,978 231,226		184,330	Cum	
18,922	12,821		11,651	23,133	6,904	36,337	15,149	17,892	28,247	12,105	6,544	184,330	Mth	
													"Net" TEC Costs	F.
													H	Fall 95 Reforecast
Dec98	Novas	Oc198	Sep95	Aug96	Jul95	Jun96	Mar85 Apr95 May95	Apr 95	Mar85	Feb95		PTD Dec94 Jan95		

													The state of the s
260,889											•	227,508	Үвану
488,397	462,708	445,970	421,844	405,961	376,961	360,411	320,061	301,078	279,901	246,156	232,902	227,508	Cum
25,691	18,736	24,325	15,693	28,991	16,549	40,350	16,983	21,177	33,745	13,255	5,394	227,508	Muh
													"Gross" IEC Costs
													Fall 15 Reforecast

Yearly (43,178)	Cum (43,178)	Mth (43,178)	DOE Costs	all 96 Referense
178)		178)		
	(42,028)	1,150		
	(43,178)	(1,150)		
	(48,875)	(5,497)		
	(51,960)	(3,285)		
	(55,794)	(3,834)		
	(59,807)	(4,013)		
	(67,452)	(7,645)		
	(73,310)	(5,858)		
		(4,042)		
	(87,036)	(9,684)		
	(90,951)	(3,915)		
(54,541	(97,719	(8,768		

Polk Power Station Fall 1995 Reforecast

				Falls	
			"Net" TEC Costs	Fall 95 Reforecast	
	Cum	M			
	401,485	10,808			Jan96
-	412,265	10,779			Feb96
	420,814	8,349			Mar98
	428,313	7,699			Apr96 May96 Jun96
	435,050	6,737			May06
	441,089	6,039	•		Jun96
	448,642	7,552			Jui98
	453,369	4,727			Aug98
	457,356	3,987			8 - p46
	464,422	7,086			Oc#98
	468,531	4,109			Nove
90,00	471,272	2,740			Dec98

7,705 10,112 6,003	5,088	5,086 5,938	5,088
552,162 562,274 568,277	573,363	573,383 582,301	573,363

Fall 96 Reforecast													
DOE Costs													
	Mit	(3,094)	(2,696)	(2,143)	(2,696) (2,143) (1,917) (1,838) (1,666) (2,559)	(1,838)	(1,666)	(2,569)	(1,275)	(1,099)	(1,872)	(1,118)	(783)
	Cum	(100,813)	(103,509)	(105,652)	(100,813) (103,509) (105,652) (107,569) (109,407) (111,073) (113,532)	(109,407)	(111,073)	(113,632)	(114,908)	(114,908) (116,007)	(117,879) (118,997)	(118,997)	(119,780)
	Yearly												(22,061)

Polk Power Station Fall 1994 Bechtel Estimate No. 2

			DOE Costs	Fall 94 Bechtal Estimate No. 2					"Gross" TEC Costs	Fall 94 Bechtel Eathmate No. 2
Yearly	Cum	M E				Yearly	CLM	Mith		
42,374	42,374	42,374				223,189	223,189	223,189		
	43,989	1,615					230,835	7,846		
	60,091	6,103					262,736	31,901		
	58,457	8,365					304,793	42,057		
	64,113	5,656					333,145	28,352		
	69,873	5,760					358,140	24,996		
	75,037	5,164					380,497	22,357		
	78,925	3,889					308,939	18,442		
	83,406	4,481					420,334	21,395		
	87,538	4,132						18,110		
	90,420	2,882						13,736		
	B3,592	3,172						15,321		
54,328	96,703	3,111				259,240	482,430	14,928		

Polk Power Station Fall 1994 Bechtel Estimate No. 2

			"Net" TEC Costs	Fall Pd Bechtel Estimate No. 2
Yearty	CL	S t.		
	394,761	9,035		
	139	9,377		
	413,167 421,017 427,441	9,029		
	421,017	7,850		
		6,424		
	434,170	6,729		
,	440,782	6,613		
	443,608	2,826		
	446,980			
	448,889	1,909		
	449,284	396		
64,078	449,804	520		

				"Gross" IEC Costs	Fall 34 Bechtel Esilmate No. 2
	Yearly	Cum	N _E		No.2
•		493,840	11,410		
		505,694	11,410 11,854 11,382		
		617,075	11,382		
		626,976	9,901		
		535,084	8,108		
		543,512	8,427		
		551,036	7,524		
		553,882	2,626		
		567,233	3,371		
		569,142	1,909	-	
		559,537	398		
	77,628	560,057	620		

	-		DOE Costs	Fall 94 Bechtel Estimate No. 2	
Yearly	Cum	X.			
	99,079	2,376			
	101,566	2,476			
	103,908	2,353			
	105,959	2,052			
	107,643	1,684			
	109,342	1,699			
	110,253	911			
	110,253 110,253				
	110,253				
	110,253 110,253 110,253				
	110,253				
13,550	110,253				

Polk Power Station Fall 1994 Bechtel Estimate No. 2

			"Nat" TEG Costs	Fall 94 Bachtel Estimate No. 2	
Yearly	Cum	M#		_	
	449,804 449,804 449,80	0			Jan97
	449,804	0			Feb97
	449,804	0			Mar97
	449,804	0			Apr97
	449,804 449,804 449,804 449,804 449,804	0			Jam97 Feb97 Mar97 Apr97 May97 Jun97 Jul9
	449,804	0			Jun97
	449,804	0			Jul97
	449,804	0			Aug97
	449,804	0			8ep97
	449,804 449,804	0			Oct97
	449,804	0			Aug87 Sap87 Oct97 Nov97 Dec87
0	449,804	0			Dec97

	~			"Grass" IEC Costs	Fall B4 Bachtal Estimate No. 2
	Yearly	Cum	X 5		
		560,057			
		580,057			
-		560,057 560,057		Ć.	
		560,057			
		560,067 560,057	٠		
		560,057			
		560,057 560,057		÷,	
		560,057			
		560,067		٠	
		560,057			
	_ 0	560,057			

ر	11.	، ے			•	اب ا
				DOE Costs	Fall 94 Bechtel Estimate No. 2	
	Yearly	Crim	¥			
		110,253				
		110,253				
		110,253				
		110,253				
		110,253				
		110,253				
		110,253				
		110,253				
		110,253				
		110,253 110,253 110,253 110,253 110,253 110,253 110,253 110,253 110,253 110,253 110,253				
		110,253				
	0	110,253				

Polk Power Station DOE 3/95 Overrun Request

DOE Coals	March 1995 DOE Overun Request	"Gross" IEG Gosks	March 1995 DOE Overnin Request	"Nat" TEC Costs	March 1995 DOE Overrun Request
Mth Cum Yearly		Mth Cum Yearly		Mth Cum Yearly	
(43,178) (43,178) (43,178)		227,508 227,508 227,508		184,330 6,544 184,330 180,874 184,330 (PTO Dec94
1,150 (42,028)		5,384 13,255 232,902 246,156		6,544 190,874	Jangs
(1,150) (43,178)		13,255 246,156		12,105 202,978	Feb95
(5,497) (48,675)		33,745 279,901		12,105	Maros
(3,285) (51,960)		33,745 21,177 279,901 301,078			Apr 96
(3,834) (55,794)		18,963 320,061		15,149 264,267	Маува
(4,013) (59,807)		40,350 380,411		36,337 300,604	Jun95
1,150 (1,150) (5,497) (3,285) (3,834) (4,013) (7,845) (42,028) (43,178) (48,675) (51,960) (55,794) (59,807) (67,452)		16,549 376,961		8,904 309,508	Jules
(5,858) (73,310)		28,991 405,851		23,133 332,641	Aug95
(4,042) (9,884) (77,352) (87,038)		15,690 421,644		11,651 344,292	Sep96
(8,684) (87,036)		24,325 445,970		14,642 358,934	Oc#96
(3,915) (90,951)		16,738 462,708		12,821 371,765	Noves
(6,768) (97,719) (54,541)		25,684 488,390 260,883		18,918 360,671 208,342	Dec 98

Polk Power Station DOE 3/95 Overrun Request

Yestrly	Cum (100,813) (103,508) (105,652) (107,569) (109,407) (111,073) (113,632) (114,	Mth (3,094) (2,696) (2,143) (1,917) (1,838) (1,866) (2,659) (1,2	DOE Costs	March 1996 DOE Overun Request		Yеаrty	502,291 515,766 526,258 535,874 544,450 552,155 562,266	7,705 10,112	"Gross" TEC Costs	March 1998 DOE Oyerrun Request	Yearly	401,476 412,257 420,606 428,305 435,043 441,082 448,634	With 10,806 10,779 8,349 7,699 6,737 6,039 7,552 4,1	"Net" TEC Costs.	March 1995 DDE Overrun Request	
	1,073) (113,632							10,11								961nf 96un
	32) (114,908)	i59) (1,275)			And a find the first of the fir		568,269	2 6,003				34 453,361	62 4,727			96 Aug 96
	(114,906) (116,007) (117,881) (119,158) (119,963)	(1,099)		***************************************			573,365	5,086				457,348	3,987			8ep96
	(117,981)	(1,975)					584,052 590,307	10,697				468,070	8,722			00196
	(119,150)	(1,178)						8,256				471,148	5,078			Nov98
(22,264)	(119,963)	(823)				108,133	594,524	4,216			83,889	474,541	3,383			Dec 96

Polk Power Station DOE 3/95 Overrun Request

Janest 1984 DOE Overrum Resultest Janest Febbst Marist Aprist Mayest Janest Augest Augest Augest Octast Novert Deebt	(4,511											• •	Yearly
Ath um um	(122,894	(122,894)	(122,894)	(122,894)	(122,894)	(122,894)	(122,894)	(122,894)	(122,355)	(121,761)	(121,168)	(120,575)	Cum
Jam97 Feb97 Mar87 Apr97 Jun97 Jun97 Jun97 Jun97 Jun97 Jun97 Jun97 Aug97 Sep97 Oci97 Nov97 Nov97 Jun97 Jun97 <th< td=""><td></td><td>o</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>(540)</td><td>(594)</td><td>(593)</td><td>(593)</td><td>(593)</td><td>Mth</td></th<>		o	0	0	0	0	0	(540)	(594)	(593)	(593)	(593)	Mth
Jan97 Feb97 Mar97 Apr97 Mary97 Jun97 Juli97 Aug97 Bep97 Octs7 Nov97 Ith 2,753 2,753 2,753 2,760 2,507 0 0 0 0 0 0 0 0 0 0 um 477,294 480,046 482,799 485,559 488,066 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	· ,												DOE Costs
Jan97 Feb97 Mar97 Apr91 May97 Jun97 Jul97 Aug97 Bep97 Oct87 Nov97 Jun97 Jul97 Aug97 Bep97 Oct87 Nov97 Jun9 2,753 2,753 2,753 2,750 2,507 0 0 0 0 0 0 0 0 0 0 um 477,294, 480,046 492,799 495,559 488,066 488,0													March 1995 DOE Overrun Request
Jan97 Feb97 Mar97 Apr97 May97 Jun97 Jul97 Aug97 Bep97 Oci97 Nov97 Jul97 Aug97 Dep97 Oci97 Nov97 Jul97 Aug97 Bep97 Oci97 Nov97 Jul97 Aug97 Bep97 Oci97 Nov97 Jul97 Aug97 Dep97 Oci97 Nov97 Jul97 Aug97 Oci97 Nov97 Jul97 Aug97 Oci97 Nov97 Jul97 Aug97 Oci97 Nov97 Jul97 Aug97 Oci97 Aug97													
Jan97 Feb97 Mar97 Apr97 May97 Jun97 Jun97 Aug97 Sep97 Oci97 Nov97 In Jun97 Jun97 Jun97 Jun97 Jun97 Aug97 Sep97 Oci97 Nov97 In Jun97	16,436												Yearly
Jan97 Feb97 Mar97 Apr91 May97 Jun97 Jul97 Aug97 Sep97 Oct97 Nov97 Alth 2,753 2,753 2,753 2,760 2,507 0 0 0 0 0 0 0 0 0 0 um 477,294 480,046 482,799 485,559 488,066 488,066 488,066 488,066 488,066 489,066 4	610,960		610,960	610,960	610,960	610,960		610,960	607,914	604,560	601,214	597,869	Cum
Jan97 Feb97 Mar97 Apr97 May97 Jun97 Jul97 Aug97 Bep97 Oct97 Nov97 Ath 2,753 2,753 2,753 2,760 2,507 0 0 0 0 0 0 0 um 477,294, 480,046 482,799 485,559 488,066 488,06			0	0	0	0	0	3,046	3,354	3,345	3,345	3,345	Mth
Jan97 Feb97 Mar97 Apr91 May97 Jun97 Jul97 Aug97 Sep97 Oct97 Nov97 Alth 2,753 2,753 2,753 2,760 2,507 0 0 0 0 0 0 0 0 um 477,294 480,046 482,799 485,559 488,066 488,	ı	ı											"Gross" IEC Costs
Jan97 Feb97 Mar97 Apr97 May97 Jun97 Jul97 Aug97 Sep97 Oct97 Nov97 Ath 2,753 2,753 2,753 2,750 2,507 0 0 0 0 0 0 0 um 477,294 480,046 482,759 485,559 488,066													Harch 1996 DOE Overrun Request
Jan97 Feb97 Mar97 Apr97 May97 Jun97 Jul97 Aug97 Sep97 Oct97 Nov97 Ath 2,753 2,753 2,753 2,750 2,507 0 0 0 0 0 0 0 um 477,294, 480,046 482,799 485,559 488,066 488,066 488,066 488,066 488,066 488,066 488,066 488,066 488,066	-												
Jan97 Feb97 Mar97 Apr97 May97 Jun97 Jul97 Aug97 Sep97 Oct97 Nov97 Alth 2,753 2,753 2,753 2,750 2,507 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	13,525												Үөзгү
Jan97 Feb97 Mar97 Apr97 May97 Jun97 Jul97 Aug97 Sep97 Oct87 Nov87 Ath 2,753 2,753 2,753 2,750 2,507 0 0 0 0 0 0	488,086			486,066		488,066	488,066	488,066	485,559	482,799	480,046	477,294	Cum
Jan97 Feb97 Mar97 Apr97 May97 Jun97 Jul97 Aug97 Sep97 Oct87 Nov97 Dec9				0		0	۵	2,507	2,760	2,753	2,753	2,753	MS
Jan97 Feb97 Mar97 Apr97 May97 Jun97 Jul97 Aug97 Sep97 Oct87 Nov87													"Net" TEC Costs
Feb97 Mar97 Apr97 May97 Jun97 Jul97 Aug97 Sep97 Oct87 Nov97													March 1996 DOE Overrun Request
	Dec97	Nov97	-	Sep97	Auger	Jul87	Jun97	May97	Apr97	Mar97	Feb97	Jan97	

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